UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,300	09/24/2004	Yung-Hi Kim	OPA9408-32/US	3662

23510 7590 03/08/2007

MICHAEL BEST & FRIEDRICH, LLP
ONE SOUTH PINCKNEY STREET
P O BOX 1806
MADISON, WI 53701

EXAMINER	
GRAFFEO, MICHEL	
ART UNIT	**PAPER NUMBER**
1614	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,300	KIM ET AL.	
	Examiner	Art Unit	
	Michel Graffeo	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Action

Claims 30-35 are examined.

Applicant has canceled claims 1-29, added new claims 30-35 and provided arguments for the patentability of claims 30-35 in the response filed 22 September 2006.

Applicant's arguments, see response, filed 22 September 2006, have been fully considered and are persuasive to the extent that the rejections under 35 USC §101, §102 and §103 have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made. Any rejection not specifically stated in this Office Action has been withdrawn.

Claim Rejections - 35 USC § 112 1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 30-35 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of inhibiting IL-8 in vitro and treating sepsis, does not reasonably provide enablement for the treatment and/or prevention of

a representative number of diseases associated with IL-8, i.e. Gerhardt disease and ischemia-reperfusion injury. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

In this regard, the application disclosure and claims have been compared per the factors indicated in the decision *In re Wands*, 8 USPQ2nd 1400 (Fed. Cir. 1988) as to undue experimentation.

The factors include:

1) the nature of the invention;
2) the breadth of the claims;
3) the predictability or unpredictability of the art;
4) the amount of direction or guidance presented;
5) the presence or absence of working examples;
6) the quantity of experimentation necessary;
7) the state of the prior art; and ,
8) the relative skill of those skilled in the art.

Each factor is addressed below on the basis of comparison of the disclosure, the claims and the state of the art in the assessment of undue experimentation.

1) the nature of the invention; the invention is directed to a method of treating and/or preventing diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury.

2) the breadth of the claims; the scope of the method claims includes the treatment and prevention of any and all diseases associated with IL-8, i.e. Gerhardt disease and ischemia-reperfusion injury but has not recited the step(s)

that (a) result in preventing nor treating all claimed disease nor (b) having a specified end result of the treatment.

3) the predictability or unpredictability of the art; the ability of preventing of any and all diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury is not yet known in the art. See, Riedermann et al. Anti-inflammatory strategies for the treatment of sepsis. *Expert Opin. Biol. Ther.* (2003) 3(2):339-350 which reviews some symptoms and treatments for sepsis and ultimately concludes that the 'silver bullet' therefor has not yet been found (page 346). The burden of enabling one skilled in the art to treat and prevent any and all diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury would be much greater than that of enabling the treatment of such diseases. In the instant case, the specification does not provide guidance as to how one skilled in the art would accomplish the objective of preventing of any and all diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury. Nor is there any guidance provided as to a specific protocol to be utilized in order to show the efficacy of the presently claimed active ingredients for preventing such a list of diseases (see for example claim 17).

No experimental evidence supporting the contention that the claim specified actives could actually prevent these diseases by simply administering the claim specified active agents has not been demonstrated. The specification fails to enable one of ordinary skill in the art to practice the presently claimed

method for preventing and for practicing same without a specific endpoint for the treatment of the claimed diseases.

The term "prevention" or "preventing" is synonymous with the term "curing" and both circumscribe methods of treatment having absolute success. Since absolute success is not as of yet reasonably possible with most diseases/disorders, especially those having etiologies and pathophysiological manifestations which are as complex/poorly understood as sepsis, inflammatory bowel disease, meningitis MS etc., the specification is viewed as lacking enablement for prevention for any of the diseases/conditions recited, in e.g., claim 17.

4) the amount of direction or guidance presented; the specification does not provide any guidance in terms of preventing of any and all diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury.

5) the presence or absence of working examples; no working examples are provided for preventing of a representative number of diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury, for example in a patient, in the specification. The applicant has not provided any competent evidence or disclosed any tests that are highly predictive for the preventative effects of the instant composition. Note that in cases involving physiological activity such as the instant case, "the scope of enablement obviously varies inversely with the degree of unpredictability of the factors involved". See In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970).

6) the quantity of experimentation necessary; the quantity of experimentation would be an undue burden to one of ordinary skill in the art and amount to the trial and error type of experimentation. Thus, factors such as "sufficient working examples", "the level of skill in the art" and "predictability", etc. have been demonstrated to be sufficiently lacking in the instant case for the instant method claims. To support a claim to prevent or treat all claimed diseases, Applicant would need to provide confirmative in vivo data supporting an absolute prevention of the diseases as well as dosage regimes resulting in the prevention of same.

In view of the breadth of the claims, the chemical nature of the invention and unpredictability of preventing of any and all diseases associated with IL-8, i.e. sepsis and ischemia-reperfusion injury, and the lack of working examples regarding the activity as claimed, one skilled in the art would have to undergo an undue amount of experimentation to use the instantly claimed invention commensurate in scope with the claims.

In consideration of each of factors 1-8, it is apparent that there is undue experimentation because of variability in prediction of outcome that is not addressed by the present application disclosure, examples, teaching and guidance presented. Absent factual data to the contrary, the amount and level of experimentation needed is undue.

Claims 30-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

Applicant has not described what is meant by "disease or disorder associated with suppression of neutrophil apotosis (did Applicant mean "apoptosis"? Examiner is interpreting the claim as comprising "apoptosis") or excessive release of IL-8". In particular, is the disorder caused by a suppression of neutrophil apoptosis or a result of same? Same question can be posed for the "excessive release of IL-8.

To satisfy the written description requirement, applicant must convey with reasonable clarity to one skilled in the art, as of the filing date that application was in possession of the claimed invention. A lack of adequate written description issue also arises if the knowledge and level of skill in the art would not permit one skilled in the art to immediately envisage the product claimed from the disclosed process. See, e.g., Fujikawa v. Wattanasin, 93 F.3d 1559, 1571, 39 USPQ2d 1895, 1905 (Fed. Cir. 1996) (a "laundry list" disclosure of every possible moiety does not constitute a written description of every species in a genus because it would not "reasonably lead" those skilled in the art to any particular species); In re Ruschig, 379 F.2d 990, 995, 154 USPQ 118, 123 (CCPA 1967).

Response to Arguments - 35 USC § 112

Applicant's arguments filed 22 September 2006 have been fully considered but they are not persuasive. Applicant's argue the term "prevention". To that extent,

Examiner interprets the term "prevention" as the action of keeping from happening or rendering impossible an anticipated event or an intended act. (The chief current use as in the Oxford English Dictionary Online © Oxford University Press (2007).) Although Examiner Acknowledges Applicant's Declaration filed 22 September 2006, the Declaration supports the treatment of septicemia in a patient. Again, the septicemia is reduced in the treated groups but there is no indication that the treatment of septicemia is supportive of the treatment and/or prevention of a representative amount of diseases "associated with neutrophil apoptosis or excessive release of IL-8" such as ischemia reperfusiton injury. Moreover, IL-8 for example is associated with a number of diseases that are much different from ischemia reperfusion injury and septicimia, for example: soft tissue disorders and ureitis.

Conclusion

No claim is allowed.

Applicant's amendment, cancellation of all claims and addition of new claims, necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michel Graffeo whose telephone number is 571-272-8505. The examiner can normally be reached on 9am to 5:30pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on 571-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

1 March 2007
MG

Ardin H. Marschel 3/4/07
ARDIN H. MARSCHEL
SUPERVISORY PATENT EXAMINER